

CLAIMS

We claim:

1. In a router, a method of routing a message from a sending computer system to a receiving computer system such that a routing path for the message can be changed before the message reaches the receiving computer system, comprising the following:
 - an act of receiving a message that originated at the sending computer system and that is to be delivered to the receiving computer system, the message having at least a router list that identifies one or more routers, an ultimate destination identifier, and message content;
 - an act of accessing routing rules that specify how the message should be routed to the receiving computer system;
 - an act of comparing at least a portion of the message to the routing rules to determine whether the router list should be reconfigured, wherein the router adds or deletes one or more routers in the router list as appropriate; and
 - an act of sending the message to a next router in the router list, wherein the next router identifies that it is an appropriate recipient for the message.
2. The method as recited in claim 1, wherein the act of receiving a message that originated at the sending computer system and that is to be delivered to the receiving computer system comprises an act of receiving a SOAP message.
3. The method as recited in claim 1, wherein the routing rules are present in one or more of the router, the next router, the sending computer system, and the message.
4. The method as recited in claim 1, further comprising identifying from a local file at the next router whether the router list should be reconfigured, wherein the next router adds or deletes one or more routers in the router list as appropriate.
5. The method as recited in claim 2, wherein the next router identifies that it is an appropriate target of the sent message based on one or more of the next router's position in the router list, and a router designation contained in the message.

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6. The method as recited in claim 2, further comprising, an act of detecting that the ultimate destination is an appropriate recipient of the message upon receiving the message at the ultimate destination.
7. The method as recited in claim 6, wherein the act of detecting that the ultimate destination is the correct recipient comprises:
 - an act of identifying the one or more routers in the router list sequentially beginning with a top most router;
 - an act of identifying at the router that the router is a top most router in the router list;
 - an act of removing the top most router in the router list upon sending the message so that a subsequent router becomes the top most router in the router list; and
 - an act of confirming at the ultimate destination that the ultimate destination is the top most router in the router list.
8. The method as recited in claim 1, further comprising an act of providing a router preference in the router list prior to relaying the message to the router.
9. The method as recited in claim 1, wherein the router is a user-created router, the user-created router determining whether to add or a delete a next router from the router list based on the content in the message.
10. The method as recited in claim 1, further comprising reconfiguring the router list contained within the message prior to the message reaching the ultimate destination, whether the router list is reconfigured based at least in part on one or more of a router identified in the routing list, the geographic origin of the message, and the message content.
11. The method as recited in claim 1, wherein the act of comparing at least a portion of the message to the routing rules to determine whether the router list should be reconfigured comprises an act of comparing the message content to the routing rules.

12. In a router, a method of routing a message from a sending computer system to a receiving computer system such that a routing path for the message can be changed before the message reaches the receiving computer system, comprising the following:

an act of receiving a message that originated at the sending computer system and that is to be delivered to the receiving computer system, the message having at least a router list that identifies one or more routers, an ultimate destination identifier, and message content;

a step for adjusting a routing path for the message based in part on the ultimate destination indicated in the message, the routing list included in the message, and a referral cache; and

an act of sending the message to a next router in the router list, wherein the next router identifies that it is an appropriate recipient for the message.

13. The method as recited in claim 12, wherein the step for adjusting a routing path for the message comprises:

a corresponding act of accessing routing rules that specify how the message should be routed to the receiving computer system; and

a corresponding act of comparing at least a portion of the message to the routing rules to determine whether the router list should be reconfigured, wherein the router adds or deletes one or more routers in the router list as appropriate.

14. In a sending computer system, a method of routing a message to a receiving computer system such that a routing path for the message can be changed before the message reaches the receiving computer system, comprising the following:

- an act of identifying the receiving computer system, and one or more preferred routers by which the message is intended to be relayed to the receiving computer system;
- an act of creating the message, the message including an identifier representing the receiving computer system, message content, and a message router list, the message router list including the one or more preferred routers;
- an act of referencing a cached router list stored at the sending computer system;
- an act of modifying the message router list based on router data contained within the cached router list, wherein a router from the cached router list is added to the message router list or a router is deleted from the message router list; and
- an act of sending the message to a first router included in the modified router list.

15. The method as recited in claim 14, wherein the act of modifying the message router list based on router data contained within the cached router list comprises an act of modifying the message router list based on routing rules that indicate one or more preferred routers through which the message should be relayed before reaching the receiving computer.

16. A computer program product for use in a router, the computer program product for implementing a method for routing a message from a sending computer system to a receiving computer system such that a routing path for the message can be changed before the message reaches the receiving computer system, the computer program product comprising one or more computer-readable media having stored thereon computer executable instructions that, when executed by a processor, cause the router to perform the following:

receive a message that originated at the sending computer system and that is to be delivered to the receiving computer system, the message having at least a router list that identifies one or more routers, an ultimate destination identifier, and message content;

access routing rules that specify how the message should be routed to the receiving computer system;

compare at least a portion of the message to the routing rules to determine whether the router list should be reconfigured, wherein the router adds or deletes one or more routers in the router list as appropriate; and

send the message to a next router in the router list, wherein the next router identifies that it is an appropriate recipient for the message.

17. The computer program product as recited in claim 16, wherein the act of receiving a message that originated at the sending computer system and that is to be delivered to the receiving computer system comprises an act of receiving a SOAP message.

18. The computer program product as recited in claim 16, wherein the routing rules are present in one or more of the router, the next router, the sending computer system, and the message.

19. The computer program product as recited in claim 16, further comprising identifying from a local file at the next router whether the router list should be reconfigured, wherein the next router adds or deletes one or more routers in the router list as appropriate.

20. The computer program product as recited in claim 17, wherein the next router identifies that it is an appropriate target of the sent message based on one or more of the next router's position in the router list, and a router designation contained in the message.

21. The computer program product as recited in claim 17, further comprising, an act of detecting that the ultimate destination is an appropriate recipient of the message upon receiving the message at the ultimate destination.

22. The computer program product as recited in claim 21, wherein the act of detecting that the ultimate destination is the correct recipient comprises:

an act of identifying the one or more routers in the router list sequentially beginning with a top most router;

an act of identifying at the router that the router is a top most router in the router list;

an act of removing the top most router in the router list upon sending the message so that a subsequent router becomes the top most router in the router list; and

an act of confirming at the ultimate destination that the ultimate destination is the top most router in the router list.

23. The computer program product as recited in claim 16, further comprising an act of providing a router preference in the router list prior to relaying the message to the router.

24. The computer program product as recited in claim 16, wherein the router is a user-created router, the user-created router determining whether to add or a delete a next router from the router list based on the content in the message.

25. The computer program product as recited in claim 16, further comprising reconfiguring the router list contained within the message prior to the message reaching the ultimate destination, whether the router list is reconfigured based at least in part on one or more of a router identified in the routing list, the geographic origin of the message, and the message content.

26. The computer program product as recited in claim 16, wherein the act of comparing at least a portion of the message to the routing rules to determine whether the router list should be reconfigured comprises an act of comparing the message content to the routing rules.

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27. A computer program product for use in a sending computer system, the computer program product for a method for routing a message from a sending computer system to a receiving computer system such that a routing path for the message can be changed before the message reaches the receiving computer system, the computer program product comprising one or more computer-readable media having stored thereon computer executable instructions that, when executed by a processor, cause the sending computer system to perform the following:

- identify the receiving computer system, and one or more preferred routers by which the message is intended to be relayed to the receiving computer system;
- create the message, the message including an identifier representing the receiving computer system, message content, and a message router list, the message router list including the one or more preferred routers;
- reference a cached router list stored at the sending computer system;
- modify the message router list based on router data contained within the cached router list, wherein a router from the cached router list is added to the message router list or a router is deleted from the message router list;
- and

send the message to a first router included in the modified router list.